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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,158	10/24/2005	Camiel Heffels	HEFF3002/FJD	3571

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BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314		

EXAMINER	
GIGLIO, BRYAN J	

ART UNIT	PAPER NUMBER
2877	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/522,158

Applicant(s)

HEFFELS ET AL.

Examiner

Bryan J. Giglio

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 15 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/ are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments, see *Remarks*, page 8-9, filed 10/15/2007, with respect to the rejection(s) of claim(s) 20-32, 34, and 38 under 35 USC 103(a) have been fully considered but they are not persuasive.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

The prior art has been cited and reasonably combined in the previous Office action (paper # 20070606) and the rejections are maintained below.

Furthermore, the amendments to claims 20 and 21 do not change the scope when given a broadest reasonable interpretation of the claims because the term "relative" allows for either element to be movable since movability in this case depends on the observer's relative frame of reference, which can be arbitrary.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 22, 28, and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regard to claim 22, the phrase "between said radiation source and said linear variable filter" does not have antecedent basis and does not make sense since the claim is dependent from claim 20, which doesn't have movement of this type. The claim will be construed as without the phrase "between said radiation source and said linear variable filter".

In regard to claim 28, it is unclear which elements are intended to be selectable in the alternative from a group of elements. For example, "said radiation source" is repeated twice, and there is an "of" and "and" limitations in lines 3-5. The examiner cannot determine the intended scope of the claim.

In regard to claim 30, the limitation "preferably" makes the metes and bounds of the claim unclear and indefinite. This problem was not specifically pointed out with respect to claim 30 in the previous office action, due to an oversight by the examiner, but was pointed out with respect to claims 33 and 36. The issue in general was therefore made known to Applicant. For these reasons, the current rejection is not considered sufficient for making the present Office action non-final.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 20-29, 31, 34, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnston, et al. (U.S. Patent No. 5815278), previously cited, in view of Gillispie (U.S. PGPub. No.

20020158211 which incorporates U.S. Patent No. 5828452), previously cited, and well known practices in the art.

In regard to claim 20 the Johnston reference teaches a device for IR-spectrometric (see c.16, l.14-17) analysis of a solid, liquid or gaseous medium (see c.25, l.28-33), comprising: a process probe, which has a reflection element (see fig.12A or fig.6), a linear variable filter (see c.24, l.14-15, wedge etalon), at least one detector element (see c.24, l.12-13, "monochrometers, mechanically tunable wavelength output and a single detector"); and a control/evaluation unit (see c.20, l.64-66), wherein: at least one radiation source is provided, whose electromagnetic radiation is coupled into said reflection element (see fig.12A and c.23, l.54—c.24, l.7), at least one waveguide is provided (see fig.6), having an input section and an output section. The Johnston reference is silent to the system where the electromagnetic radiation is conducted via the output section of said waveguide into at least one defined area of said linear variable filter; said detector element is arranged to be movable relative to said linear variable filter over essentially the length of said linear variable filter; and said control/evaluation unit determines the spectrum of the medium on the basis of the measured values delivered from said detector element, per se. The Johnston reference does teach that a variety of filtering arrangements may be used (see c.24, l.8-23) including "wedge etalons" and "linear variable interference filters". Applicant admits IR linear variable filters are well known (see specification, page 10, pgh. 5). The Johnston reference further teaches that one filtering option is to use a "mechanically tunable wavelength output and a single detector". It doesn't explicitly teach the arrangement for doing so, however the Gillispie reference shows using a linearly variable filter and single detector which move relative to each other in order to determine the spectrum (see '211, fig.1, and fig.3) for the benefit of reducing cost with a single detector (see '452, c.7, l.43). As stated, the Johnston reference suggests this arrangement.

Therefore it would have been obvious to a person having ordinary skill in the art to which the subject matter pertains to use the linearly variable mechanically adjustable single detector scheme as suggested by Johnston, explicitly in an arrangement as shown by Gillispie, in order to benefit from reduced cost associated with a single detector.

In regard to claim 21, the only difference between claim 21 and 20 is that the electromagnetic radiation is coupled, after passing through said linear variable filter, into the reflection element, the focused electromagnetic radiation coming from said radiation source is arranged to be movable relative to said linear variable filter are over essentially the length of said linear variable filter; said detector element receives the electromagnetic radiation after it has passed through said reflection element; and said control/evaluation unit determines the spectrum of the medium on the basis of the measurement values delivered from said detector element, or in other words the source emission is passed through the variable filter prior to entering the probe, instead of the filtering occurring at the detector. The Johnston reference teaches all of the other elements. The Johnston and Gillispie combination as cited above further teaches passing emission light through a linearly variable filter prior to entering the reflection element. In particular the Johnston reference teaches that a source may be broadband or have multiple wavelengths which must then be filtered using the filtering arrangements as taught above (see c.23, 1.57-60), and the Gillispie reference also teaches applying the filtering arrangements to the source light (see fig.2b). Therefore all of the elements of claim 21 are taught as cited and combined above further considering these aspects of the Johnston and Gillispie references.

In regard to claim 22, the Gillispie reference teaches the device wherein said control/evaluation unit controls the relative movement between said detector element and linear variable filter, stepwise or continuously (see '211, [0053]), between said radiation source and said linear variable filter.

In regard to claim 23, the Johnson/Gillispie combination teaches the device wherein: said detector element is mounted fixedly; said radiation source is mounted fixedly (see '278, fig.16A or 16B) and said control/evaluation unit moves said linear variable filter stepwise or continuously past said detector element (see above combination, citations and reasoning, and '211, fig.3).

In regard to claim 24, the Johnston/Gillispie combination as cited above is silent to moving a detector element along a fixed linear variable filter, per se. The combination teaches relative movement as cited above, and the variation between one or another element being fixed or moving relative to each other is optically and functionally equivalent and Official notice is hereby taken that it would have been obvious to use this equivalent variation in order to maintain constant position of the filter element relative the device in whole.

Therefore it would have been obvious to a person having ordinary skill in the art to which the subject matter pertains to substitute the moving filter, fixed detector arrangement, as taught by the Johnston/Gillispie combination, with the optically and functionally equivalent fixed filter and moving detector arrangement, in order to maintain constant position of the filter relative to the device in whole.

In regard to claim 25, the Gillispie reference teaches the device further comprising: a holding device, in which said detector element and said output section are mounted (see '211, fig.1, element 120 and 126, inherently mounted).

In regard to claim 26, the Gillispie reference teaches the device further comprising: a guide rail, wherein: said holding device, said detector element, said radiation source or said linear variable filter are arranged on said guide rail (see '211, fig.3).

In regard to claim 27, the Johnston reference teaches the device wherein: said output section or said input section includes a cross-section converter (see fig.12B).

In regard to claim 28, the Gillispie reference teaches the device further comprising: a drive wherein: said drive is provided for moving said linear variable filter, said detector element, said radiation source, or said holding device for said detector element, and said radiation source, stepwise or continuously (see '211, fig.3).

In regard to claim 29, the Johnston reference teaches the device wherein: said at least one waveguide is an optical fiber duplexer (see fig.12B and 16B), via which the measuring radiation and a reference radiation are guided to said reflection element; and the measuring beam and the reference beam are conducted to said linear variable filter (see c.19, l.46-65, "reference region" couple to the light pipe would inherently be couple to the detector via the filter for comparison; see also c.20,l.58-c.21,l.4, "fiber couplers").

In regard to claim 31, the Johnston reference teaches the device wherein: said reflection element is manufactured from a high-purity material semiconductor (see c.5, l.28-33, "crystal" and "sapphire").

In regard to claim 34, the Johnston reference teaches the device wherein: said reflection element is so dimensioned and embodied that the ray path of said measuring light undergoes a plurality of reflections in said reflection element; and the number of reflections is determinable via the length of said reflection element (see fig.6, and see also c.5, l.28-34).

In regard to claim 38, the Johnston reference teaches the device wherein: said process probe comprises an ATR probe, a reflection probe or a transmission probe (see c.26, l.1-12).

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnston and Gillispie, cited above, in view of Busch, et al. (U.S. Patent No. 5473162), previously cited.

In regard to claim 30, the Johnston Gillispie combination teaches all of the elements of claim 20, from which claim 30 depends, as cited above. It is silent to the device wherein: said detector element comprises a pyroelectric detector or a detector array. The Johnston reference teaches that an IR detector would be necessary instead of silicon (see c.16, l.14-17). The Busch reference details IR type detectors, including thermocouple and pyrolytic detectors (see c.12, l.30-49).

Therefore it would have been obvious to replace the detectors as taught by Johnston with the IR detectors as taught by Busch in order to take advantage of the IR spectrum in the Johnston reference.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnston and Gillispie, cited above, in view of Melling (U.S. Patent No. 5754722), previously cited.

In regard to claim 32, the Johnston Gillispie combination teaches all of the elements of claim 20, from which claim 32 depends, as cited above. It is silent to the device wherein: said reflection element is manufactured from a high-purity semiconductor material or another IR-transmittive material, to both of which a thin diamond coating is applied. The Melling reference teaches an ATR probe having a diamond coating in order to enhance the probes chemical resistance (see c.4, l.5-10). This is beneficial in the chemical testing probe arrangement of Johnston (see fig.12A).

Therefore it would have been obvious to a person having ordinary skill in the art to which the subject matter pertains to coat the probe as taught by Johnston with diamond as taught by Melling, in order to improve chemical resistance during testing.

Allowable Subject Matter

Claims 33 and 35-37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claim 33, the prior art of record, taken alone or in combination, fails to disclose or render obvious a microprism, in combination with the limitations of claim 33.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following citations of U.S. Patents, Pre-grant Publications (PGPub), or non-patent literatures (NPL) are included in order to exemplify the state of the art to which the application is related.

DE 10034220, by Kupper, has been fully translated by the USPTO and included for the record.

Sting, et al. (U.S. Patent No. 5703366) and Day, et al. (U.S. Patent No. 5185834) comprise optical probe arrangements.

Several facts have been relied upon from the personal knowledge of the examiner about which the examiner took Official Notice in the previous Office Action mailed 6/14/2007. Applicant must seasonably challenge well known statements and statements based on personal knowledge when they are made by the Board of Patent Appeals and Interferences. In re Selmi, 156 F.2d 96, 70 USPQ 197 (CCPA 1946); In re Fischer, 125 F.2d 725, 52 USPQ 473 (CCPA 1942). See also In re Boon, 439 F.2d 724, 169 USPQ 231 (CCPA 1971) (a challenge to the taking of judicial notice must contain adequate information or argument to create on its face a reasonable doubt regarding the circumstances justifying the judicial notice). If applicant does not seasonably traverse the well-known statement during examination, then the object of the well-known statement is taken to be admitted prior art. In re Chevenard, 139 F.2d 71, 60 USPQ 239 (CCPA 1943). A seasonable challenge constitutes a demand for evidence made as soon as practicable during prosecution, and Applicant must point out the supposed errors in the Examiner's action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art. See MPEP 2144.03(C). Thus, applicant is charged with rebutting the well-known statement in the next reply after the Office action in which the well-known statement was made. The applicant has not presented a traversal in the Amendment filed 10/15/2007, thus the well-known statement is taken to be admitted prior art. See MPEP 2144.03.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan J. Giglio whose telephone number is (571) 270-1028. The examiner can normally be reached on M-F, 7:30AM-5:00PM EST, Alt. Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Toatley can be reached on (571)272-2059. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:
10/522,158
Art Unit: 2877

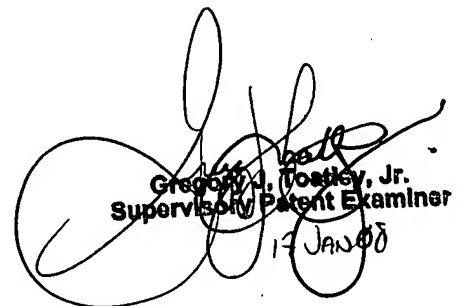
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BG

7 January 2008



Gregory J. Tooley, Jr.
Supervisory Patent Examiner
17 JAN 08